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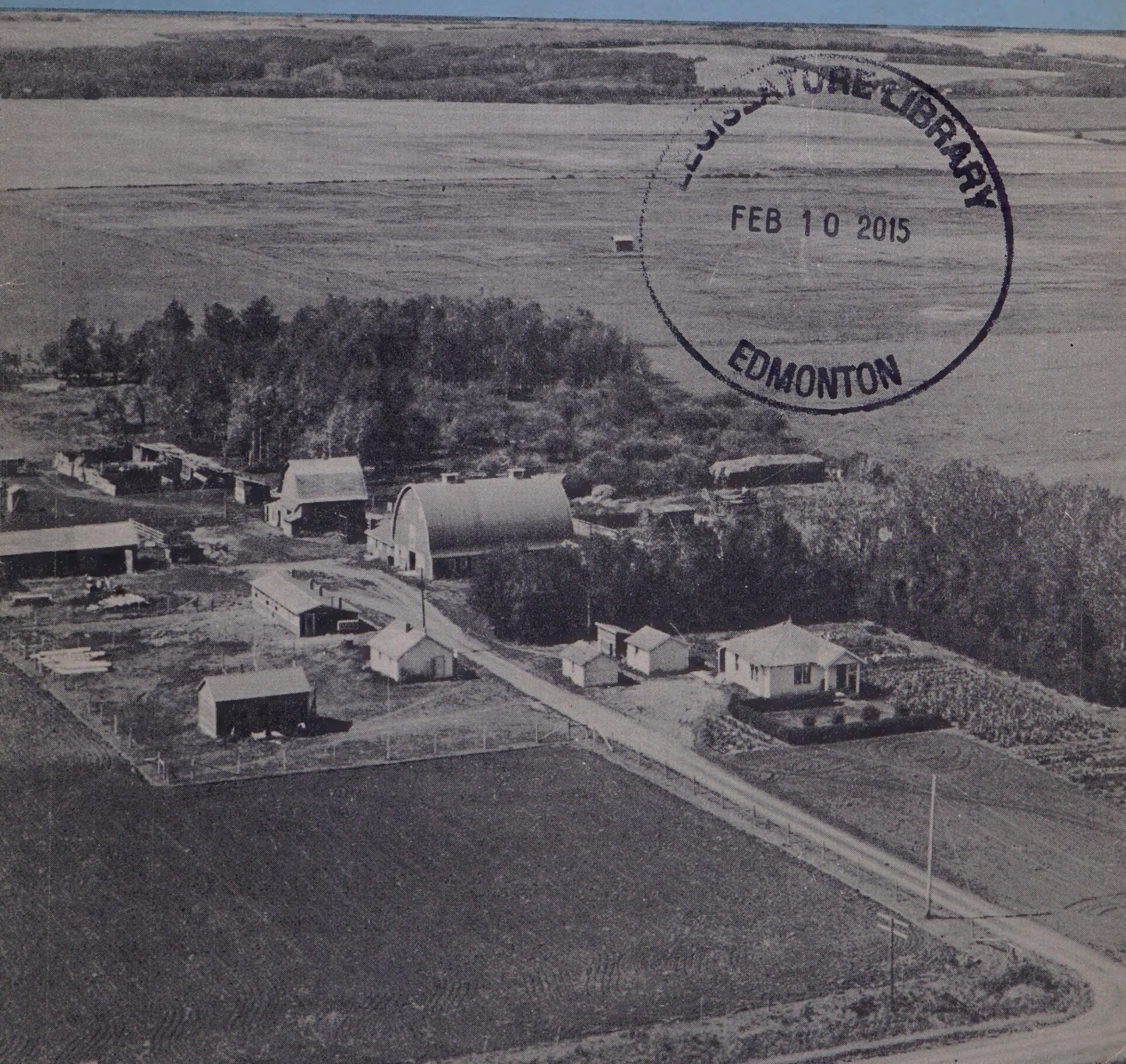
FARMING IN ALBERTA CANADA

GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF AGRICULTURE

HON. D. A. URE
MINISTER

O. S. LONGMAN
DEPUTY MINISTER



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HON. D. A. URE
MINISTER OF AGRICULTURE

Foreword

THIS booklet has been prepared in response to the many enquiries received for information on various aspects of farming in Alberta. It deals with the agricultural resources of the province and the manner in which they are being developed.

Alberta's farm resources are rich and varied. After well over a half-century of development, they are still far from being fully utilized. Mechanization, improved crop varieties and farming techniques, the use of natural and commercial fertilizers, the extension of irrigation and the application of business methods in agriculture, will add to the output of our farms as food is required in the markets of the world.

There are still many areas of unoccupied land in Alberta. Much of this land, however, is considered inaccessible or submarginal under present conditions, and the provincial government carefully restricts new settlement to areas that will adequately support community life.

Alberta has been settled just long enough to develop a farm generation that is proud of its heritage. Past achievements provide a firm foundation for future progress. The farmer and his family face constantly changing situations that affect the use of the production resources under their direction. In the future, as in the past, they may be counted upon to meet successfully any new challenge that may arise.

D. A. URE,
Minister of Agriculture.

FARMING IN ALBERTA, CANADA

by R. E. ENGLISH, Agricultural Statistician,
Alberta Department of Agriculture.

INTRODUCTION

THE purpose of this pamphlet is to describe the agricultural resources of Alberta and their development. The fundamental factors that affect farming —soil, climate, etc.; the utilization of the land already settled; the importance of quality in producing for an export market; how farms can be acquired and financed; government assistance to agriculture; and the organization of local administrative units are discussed. The maps, photographs and statistical data, were selected with a view toward helping the overseas reader to learn what living on Alberta farms is really like.

Though far from complete, the picture presented will serve as a reliable guide on farming in this part of Canada.

We sincerely believe that Alberta offers as favorable an opportunity for farming as is available. Nevertheless, success in farming here as elsewhere, depends, in large measure, on individual effort and initiative. The family that is not adapted to living on the farm is not likely to succeed.

HISTORICAL OUTLINE

THE early fur traders were the first to practice farming in Alberta. In 1779, Peter Pond, one of the original partners in the North-West Fur Trading Company planted "a kitchen garden" near Lake Athabasca. Later the Hudson's Bay Company adopted the policy of encouraging farming at its posts.

Cattle, horses and pigs were introduced. Potatoes and barley seem to have been the principal crops. Wheat growing was not recorded in the early journals of fur trading posts perhaps because the varieties available failed to mature.

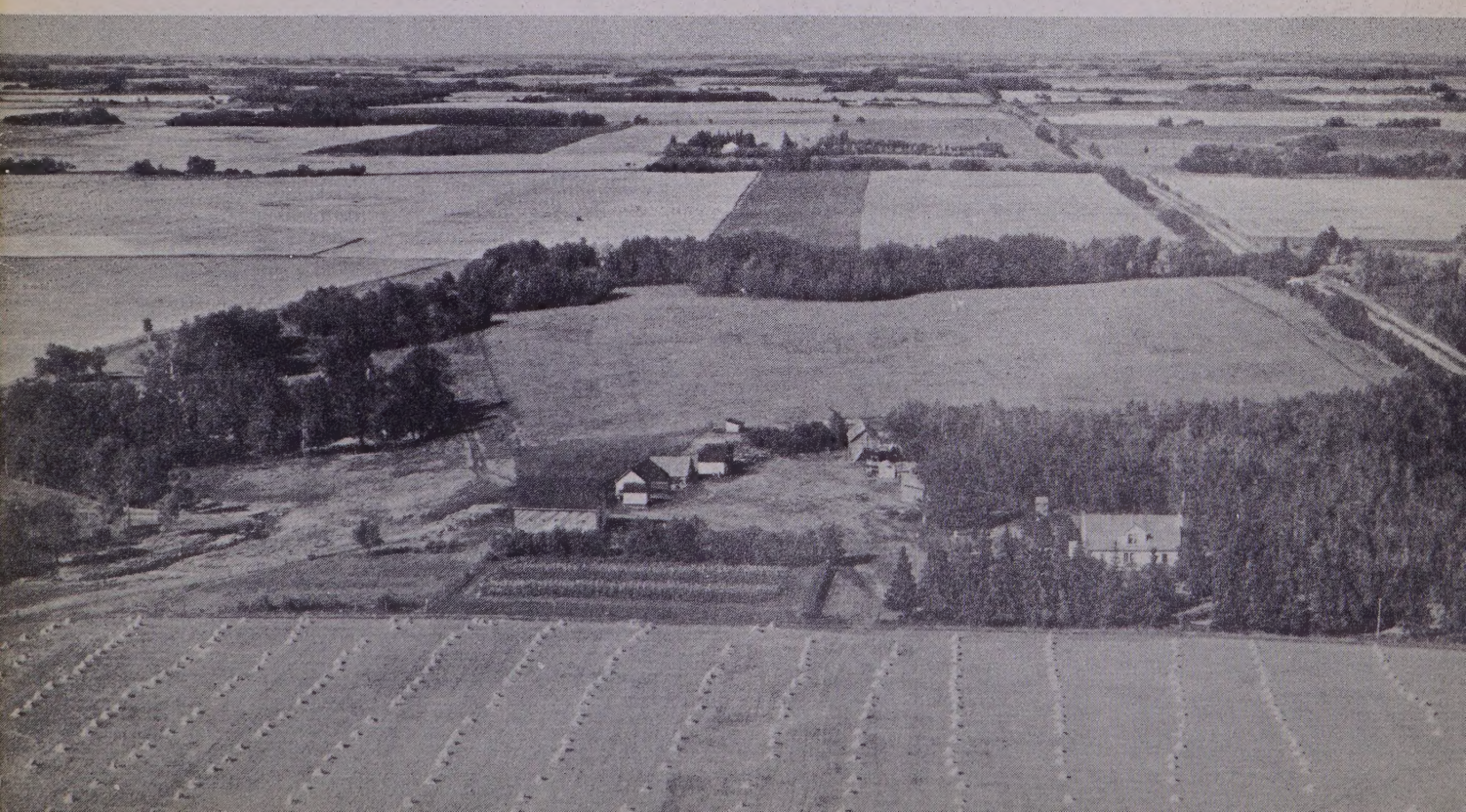
In 1869, Prince Rupert's Land became a part of the Dominion of Canada by purchase from the Hudson's Bay Company. The North-West Mounted Police were organized in 1874, and Alberta was formed as a territorial district in 1882. Finally, the completion of the Canadian Pacific Railway (1885) followed by the development of branch lines, made possible the general settlement of the country.

Under naturally favorable conditions the development of ranching in Southern Alberta was spontaneous. In 1886, beef cattle were shipped from the ranges to United Kingdom markets. Between Calgary and Edmonton settlers established mixed farming enterprises. In the nineties a market was secured for oats, hay, butter, meats, etc., in the newly-opened mining districts of British Columbia. At the end of the century, Alberta produce was depended upon by those who took part in the Klondike gold rush.

A Well-planned Farmstead.

When Alberta was incorporated as a province in 1905, the pattern of her agriculture had taken definite form. With 30,286 farm holdings registered, 650,000 acres were under cultivation. She produced 3 million bushels of wheat, 13 million of oats and 2 million of barley. Her live stock population was valued at $27,305,444 and 82,830 head of cattle alone were exported. The production of butter, cheese, poultry products, mutton, pork and so forth, far exceeded the home demand. There were still many problems to be solved; but the suitability of Alberta soils and climate for agriculture had been established.

A Typical View in the Black Soils Area.



Apples at Edmonton.

GEOGRAPHY

THE Province of Alberta lies east of the incomparable Canadian Rocky Mountains, between the sister provinces of Saskatchewan and British Columbia. Its southern boundary, the 49th parallel of latitude, passes south of the English channel, and through France a few miles north of Paris, southern Germany and the middle of Czechoslovakia. Its northern boundary, the 60th parallel of latitude, passes through the Shetland Islands, the southern parts of Norway and Sweden and through the Baltic sea south of Finland.

Alberta comprises 255,285 square miles, 248,000 square miles being land and the balance fresh water. Full-sized maps of Britain, Erie, Belgium, the Netherlands, Denmark, Switzerland, Austria and Hungary might be comfortably placed within her land area.

The Province is divided into townships which are approximately six miles square and numbered consecutively as they run north from the international boundary. (Townships) and westward from the Meridians (Ranges). Townships are divided into 36 "sections" (numbered from 1 to 36), each one square mile (640 acres) in extent with a road allowance 66 feet wide around each two sections. A section is further divided into four quarter-sections comprising 160 acres. By learning the quarter-section, the number of the section, the township and range, the location of any piece of land in the Province can be readily determined.

It is estimated that some 68 million acres of land in Alberta are suitable for agricultural purposes. About 30 million acres are considered fair to good arable land, while another 10 million acres are classed as poor to fair arable. According to the 1951 census, 44,459,632 acres are in farms while 22,271,044 acres are under cultivation.

CLIMATE

IN Alberta the severe continental climate prevailing in the interior of North America, is modified by the frequent occurence of warm, "chinook"

Corn Near Lethbridge.

Strawberries at Morrin.

Red Currants at Beaverlodge.

winds that blow in from the Pacific Ocean. These winds are fresh and balmy, having been dried on the westerly slopes of the mountains and then warmed by pressure as they descend into Alberta. "Chinooks" are a marked characteristic of winter in the ranching areas of the south; but they raise the temperature to some extent in every part of the Province.

The full effect of the "chinooks" are felt at Lethbridge where the average maximum daily temperatures through December-February is 30 degrees F. Comparable average temperatures for the same period at Regina, Saskatchewan, and Winnipeg, Manitoba, though situated in the same general latitude, are 13 and 11 degrees F. respectively.

While isothermal lines for the winter period extend in a northwest-southeast direction, in summer the lines tend to run more nearly north and south. The June-August temperature at Calgary is only 3 degrees higher than at Beaverlodge 300 miles farther north.

The length of the growing season limits the range of crops that can be successfully grown in Alberta. The number of days between 3 degrees F. of frost in the spring and fall varies from between 145 at Medicine Hat to 70 in farming areas along the foothills and in the area east of Athabasca.

In the hottest part of southern Alberta, the temperature on a midsummer day may be expected to rise from

METEOROLOGICAL

	Annual Precipitation in inches	Average Daily Maximum Temperature. Year.	Winter Dec.-Feb.	Summer June-Aug.	Frost-free Period in days	Growing Period.* in days.	Hours Sunshine May-Aug.
Medicine Hat	12.81	54	25	80	130	145	1,164
Lethbridge	15.01	53	30	76	113	135	1,178
Calgary	16.65	51	27	73	97	115	1,083
Red Deer	20.63	48	23	70	82	100	----
Hanna	14.15	48	19	74	96	117	----
Rocky Mountain House	19.13	48	32	70	44	70	----
Elk Point	14.79	44	13	71	66	90	----
Edmonton	17.38	48	19	72	98	115	1,075
Athabasca	18.33	47	18	74	62	100	
Beaverlodge	17.19	46	20	70	91	100	1,077
Peace River	12.19	48	13	77	93	100	
Fort Vermilion	12.13	40	5	72	65	85	1,096

* Approximate average period between 3 degrees of frost (29 degrees F.) in spring and fall.

55 degrees at sunrise to 85 degrees in the afternoon. In the Edmonton region, 50 to 70 degrees is the average range. Very high temperatures (100 degrees) occur at times in the southern prairie region, and less frequently in the north. With rare exceptions, however, the nights are cool.

Generally speaking precipitation is a limiting factor to crop production. But the fact that the growing season is the period of greatest rainfall, permits the efficient use of a high proportion of the total received. In years when there is just enough moisture to germinate the seed and supply the initial requirements of the young plants, very large yields of grain have been obtained because of timely summer rains. Rainfall is very variable from year to year, and, except in the irrigated areas, failure of the summer rains is a serious matter to the grain farmer and will result in feed shortages among ranchers who do not carry a reserve on hand. Another point to keep in mind is that percentage variability is greatest in areas which on the average receive the lowest precipitation.

Rural Market Centre.

Where rainfall is limited the rate of evaporation from the surface is important. In general evaporation is highest in the south of the Province because of higher temperatures and greater wind velocities in that region. Nevertheless, crops on sandy soils in all parts of the Province, suffer as a result of the loss of moisture from the soil surface in years when rainfall during the growing season is below average.

In all parts of Alberta there is risk of crop damage owing to hail. It is estimated that the average loss on acreage insured since 1919 was about 7 per cent. The incidence of damage, however, varies greatly between districts. Insurance rates are based on local experience.

FARM PRODUCTION

ALBERTA'S farming resources are rich and diversified but they are far from being fully developed. Nevertheless, the agricultural industry of the Province is efficiently and successfully organized. Eighty-four thousand farmers produce a variety of high-quality products that are favorably received by consumers at home and in food-importing countries all over the world.

With a population of less than one million, Alberta produces enough total meats for about three times that number of people and it would require a population of six millions to consume the wheat produced. The following statement showing population, agricultural resources and production for 1951 illustrates the situation.

STATISTICS OF AGRICULTURE IN ALBERTA, 1951

Total Occupied Farm Land	44,459,632 acres	Unimproved Farm Land	22,188,588 acres
Improved Farm Land	22,271,044 acres	Woodland	2,865,568 acres
Cultivated Crops	14,427,631 acres	Other	19,323,020 acres
Summerfallow	6,194,976 acres		
Pasture	1,112,825 acres	Unoccupied Farm Land	
Other	535,612 acres	(estimate)	23,540,000 acres

Number of farms: Total 84,315; Owned, 53,482; Partly Owned, 21,098; Rented, 9,735.

PRODUCTION AND VALUE OF FIELD CROPS

Crop	Acres Seeded	Production bu.	Estimated Value	Long-Time Ave. Yield bu.
Wheat	6,423,899	150,000,000	$225,000,000	17.9
Oats	2,854,008	123,000,000	86,100,000	33.8
Barley	3,040,775	105,000,000	117,600,000	25.2
Rye	284,117	5,427,000	7,978,000	15.2
Flaxseed	135,394	1,489,000	5,867,000	8.4
Other grains	81,459	-------	229,000	-----
Potatoes	17,730	2,358,000	3,325,000	136.0
		Tons		Tons
Sugar beets	36,026	349,194	5,063,000	10.7
Cultivated hay	881,225	1,410,000	23,265,000	1.4
Alfalfa	324,812	747,000	14,753,000	2.1
Grain hay	282,582	565,000	6,780,000	1.7
Other Field Crops	48,027	-------	5,455,000	-----
Total Field Crops	14,410,054		$501,415,000	

LIVESTOCK POPULATION AND PRODUCTION

Kind	Number	Production * Number	Value of Production
Cattle	1,127,499	339,087	$88,811,000
Calves	437,533	143,811	15,893,000
Sheep and Lambs	330,503	168,744	3,910,000
Swine	931,808	1,542,944	78,626,000
Horses	261,133	28,418	934,000
Total Value of Live Stock Production			$188,174,000

* Includes net marketings, farm slaughterings and inventory change.

LIVESTOCK PRODUCTS

Dairy Products: Cow Population, 278,659	Production	Value of Production
Butterfat for Creamery butter	23,747,000 lb.	$15,108,000
Dairy butter	6,050,000 lb.	3,479,000
Milk for manufacture	91,571,000 lb.	2,549,000
Milk for fluid sales	313,085,000 lb.	12,613,000
Milk fed and consumed on farms	----------	13,509,000
Total Value of Dairy Products		$47,258,000
Poultry Products: Poultry population, 9,036,137.		
Eggs	35,265,000 doz.	$15,579,000
Poultry meat	36,304,000 lb.	14,478,000
Total Value of Poultry Products		$30,057,000
Honey: 38,100 colonies	4,500,000 lb.	$ 569,000
Wool: 216,300 sheep shorn	1,925,000 lb.	1,300,000
Fur Farming. Animals pelted and sold	139,945	2,826,000
Total Value of Live Stock Products		$270,184,000

CASH INCOME FROM THE SALE OF FARM PRODUCTS

(in thousands of dollars)

	1948	1949	1950	1951
Field Crops	$243,422	$253,734	$167,486	$243,710
Live Stock	149,901	144,738	150,389	163,381
Dairy Products	30,516	28,094	27,449	30,450
Fur Farming	1,965	1,952	1,607	1,974
Poultry Products	17,265	15,865	13,736	21,875
Other Products	9,281	8,070	7,340	8,976
Total	$452,350	$452,453	$368,007	$470,366

FARM OPERATORS' INCOME FROM FARMING OPERATIONS

(in thousands of dollars)

	1948	1949	1950	1951
Cash Income from Farm Products	$452,350	$452,453	$368,007	$470,366
Income in Kind	40,914	47,718	45,207	49,837
Supplementary Payments	3,533	3,360	5,256	4,235
Value of inventory changes	—19,901	—49,797	+23,503	+114,092
Gross Income	$476,896	$453,734	$441,973	$638,530
Operating Expenses and Depreciation	$170,754	$183,409	$205,567	$227,385
Net Income	$306,142	$270,325	$236,406	$411,145

A varied soil-climatic pattern in Alberta permits a considerable degree of specialization in farm production. Even in the mixed farming areas there is a strong tendency toward specialization in the production of one or two lines peculiarly adapted in the region. Such a situation is conducive to the production of high-quality commodities which is so important in competition for world markets.

The raising of good products is not confined to any particular class of farm. The finest flour is milled from Alberta wheat; and the quality of cattle that stock the ranges is probably not excelled anywhere. The producers of pure-bred livestock; the growers of cereal, legume and grass seeds; those who make a specialty of dairying, poultry raising or fur farming, all produce a generally high-quality product.

The production of good products is encouraged in a number of ways. It is a part of government policy — Federal and Provincial — to assist producers to secure quality sires, to promote the use of good seed and to encourage the adoption of approved production practices.

The activities of producers' associations are important. For example, the Canadian Seed Growers' Association, which maintains a branch in Alberta, accepts the responsibility for the quality of registered seeds offered for sale. This is accomplished by strictly regulating the manner in which seed production specialists shall conduct their operations. Other producer groups, the dairy industry for instance, make a financial contribution toward the cost of inspecting and grading dairy products offered for sale.

Finally, almost all farm products offered for sale must be graded according to standards laid down by statute or regulation thereunder. In the main, the Federal government is responsible for establishing and enforcing grades but the work is approved by the Province and supported with legislation where necessary.

ALBERTA FARMING IN THE SHOW WINDOW

GOOD produce encourages competition and the development of fairs and exhibitions. In Alberta 41 agricultural societies, the local bodies responsible for fairs, are in operation. In addition, fat stock and breeders' shows and sales are held in fall and spring. Farmers attend fairs not only to view the products on exhibit, but also to learn how to improve their own production methods.

In 1876 Alberta won championships in wheat and oats at the Philadelphia Centennial Exposition, and again in wheat at the World's Fair at Chicago in 1893. At the World's Grain Exhibition held at Regina, Saskatchewan, in 1933, where no championships were awarded, Alberta won firsts in hard red spring wheat (2), late oats (2), alfalfa, sweet clover, timothy, brome and slender wheat grass.

Grand Champion Market Steer, Toronto, 1950.

The Royal Agricultural Winter Fair held at Toronto, and the Chicago International Grain and Hay Show and Livestock Exposition, are recognized as the premier agricultural shows in Canada and North America respectively. At each, Alberta entries regularly win a good share of major awards.

In the grain and seeds section at the "Chicago International", Alberta winnings have been consistently spectacu-

Grand Champion Market Steer, Toronto, 1951.

Judged Best Shorthorn, Toronto, 1948.

lar. In the twenty-nine years of the show, sixty-two championships, twenty-five reserve championships, and one hundred and twenty-eight first prizes, are included in awards brought to this Province.

After the First Great War, the University of Alberta initiated the showing of fat cattle at the big shows. The venture met with immediate success. In 1922, Alberta fat stock won the championship in Galloways and the Shorthorn special at Chicago; another Shorthorn was champion at Toronto, while a third won a championship at Guelph. At the "Toronto Royal" in 1927, Alberta did exceptionally well in the fat stock division, winning grand and reserve championships as well as breed championships with Aberdeen-Angus, Shorthorn, Hereford and cross-bred entries respectively.

Alberta Breeder Receives Major Sheep Award, Toronto, 1951.

The big exhibitions reopened in 1946 after being closed for a period during the war. At the "Toronto Royal" shows held in 1946 to 1951 inclusive, Alberta reaffirmed her right to recognition as a producer of top-quality farm products. Following is a summary of her winnings in those years.

Grand Champion Hereford Female, Toronto, 1948.

	Grand Champion	Reserve Grand	Champion	Reserve Champion	First Prize
Horses	4	7	11	10	37
Cattle	10	7	25	19	68
Sheep			7	10	27
Swine				1	2
Poultry			1		40
Dairy Products	1	1	1		22
Grains and Seeds	16	12	5	10	68

Grand Champion Percheron Mare, Toronto, 1948.

Grand Champion Clydesdale Mare, Toronto, 1947.

Aberdeen-Angus.

TYPES OF FARMING AREAS

THE following word picture of types of farming areas is shown in map form on the opposite page. Since distinctive farming areas are the result of differences in soils and climate, it is suggested they be studied in relation to the soils and irrigation maps on pages 17 and 20 respectively.

1. MANYBERRIES: (livestock specialty) range beef cattle and sheep.
2. MEDICINE HAT SOUTH: (wheat combination) wheat, range beef cattle.
3. LETHBRIDGE: (mixed) wheat, sugar beets, livestock; specialty crops.
4. CARDSTON WEST: (livestock combination) range beef cattle and sheep, wheat.
5. SOUTHERN FOOTHILLS: (livestock specialty) range beef cattle, wheat.
6. CALGARY: (mixed) livestock, dairy, wheat.
7. SOUTH CENTRAL: (wheat specialty) wheat, grass seed.
8. BROOKS: (grain combination) wheat and coarse grains, livestock; legume seed.
9. MEDICINE HAT NORTHWEST: (wheat specialty) wheat, beef cattle and sheep.
10. HARDISTY: (wheat combination) wheat, beef cattle and swine.
11. SEDGEWICK: (wheat specialty) wheat, beef cattle and swine, dairy.
12. STETTLER: (wheat combination) wheat and coarse grains, swine and beef cattle, dairy.
13. RED DEER: (livestock combination) swine and beef cattle, wheat and coarse grains; dairy.
14. EDSON: (livestock combination) swine and beef cattle, wheat and coarse grains, dairy.
15. SANGUDO: (livestock combination) swine, wheat and coarse grains, dairy, legume seed.
16. EDMONTON: (grain combination) wheat, swine, dairy, coarse grains.
17. VEGREVILLE: (wheat combination) wheat, coarse grains, swine and beef cattle.
18. BONNYVILLE: (livestock combination swine and beef cattle, wheat, coarse grains, dairy, legume seed.
19. ATHABASCA: (wheat combination) wheat and coarse grains, swine and beef cattle, dairy, legume seed.
20. SMITH: (livestock combination) livestock, wheat, legume seed.
21. GROUARD: (livestock specialty) livestock, wheat and coarse grains.
22. HIGH PRAIRIE: (livestock combination) swine and beef cattle, wheat and coarse grains.
23. FALHER: (wheat combination) wheat and coarse grains, swine and beef cattle, legume seed.
24. CLEAR HILLS: (grain combination) wheat and coarse grains, swine and beef cattle, legume seed.
25. HINES CREEK: (livestock combination) swine, beef cattle, wheat and coarse grains, legume seed.
26. CENTRAL PEACE RIVER: (grain specialty) wheat and coarse grains, grass and legume seed.
27. WAPITI: (livestock specialty) beef cattle and swine, legume seed.
28. BEAVERLODGE: (mixed specialty) grass and legume seed, wheat and coarse grains, swine.
29. TUPPER CREEK: (livestock combination) beef cattle and swine, wheat and coarse grains, dairy.


Hay River
Slave R.
Lake Athabasca
River
L. Claire
Fort Vermilion
Wabiskaw R.
Notikewin
Peace
Peace R.
McMurray
Fairview
Berwyn
Falher
Spirit River
Lesser Slave L.
River
Beaverlodge
Grande Prairie
Wapiti R.
Primrose L.
Lac la Biche
Athabasca
Bonnyville
Smoky Lake
St. Paul
Smoky R.
Athabasca
Westlock
North Saskatchewan R.
Sangudo
Morinville
Willingdon
Myrnam
Evansberg
Edson
Edmonton
Vegreville
Vermilion
Leduc
Ryley
Camrose
Brazeau R.
Wetaskiwin
Battle R.
Wainwright
Ponoka
Sedgewick
Lacombe
Rocky Mountain House
Stettler
Red Deer
Coronation
Olds
Hanna
Drumheller
Red Deer R.
Calgary
Strathmore
Bow R.
Brooks
S. Saskatchewan River
Claresholm
Medicine Hat
Taber
Lethbridge
Manyberries
Cardston
ALBERTA
TYPE OF FARMING AREAS
WHEAT
SPECIALTY
COMBINATION
GRAIN
SPECIALTY
COMBINATION
LIVE-STOCK
SPECIALTY
COMBINATION
MIXED FARMING
University Faculty of Agriculture
Provincial School of Agriculture and Home Economics
Office: District Agriculturist
Office: District Home Economist

Wheat in Parkland area.

SOILS AND FARMING AREAS

ALBERTA soils are glacial in origin. The result is that there is considerable variation in basic soil materials that were unevenly mixed and laid down by ice action. With some exceptions therefore, uniformity in soil conditions even within relatively short distances cannot be depended upon. Nevertheless there are four fairly well defined soil zones in Alberta; namely, brown, dark brown, black and grey wooded. The boundaries between the soil zones are not distinct. Generally speaking there is an imperceptible change in climatic and soil conditions as one proceeds in a northern and western direction within the Province.

A characteristic type of agriculture has developed in each soil climatic zone. In addition a distinct agricultural area has been added in the south through the development of irrigation.

Harvesting Oats.

THE BROWN SOILS: The brown soils zone is semi-arid prairie. It occupies 12.5 million acres. Two million acres are classed as fair to good arable land and 4 million as poor to fair arable. Over 7 million acres are in occupied farms, with about 3 million under cultivation.

The average annual precipitation in the brown soils zone varies from 11 inches between Brooks and Medicine Hat to 14 inches in the north. Although

A combine harvester in operation.

most of the rainfall comes during the growing season, variability between crop years is high. The lack of moisture is a seriously limiting factor to production in about one-half the years.

The growing period in the south of this zone is the longest in the Province being about 145 days at Medicine Hat. This factor is most important in permitting the production of a wide range of crops under irrigation.

Wheat is the predominating cash crop on the brown soils and the quality produced is excellent. Generally a wheat-fallow or wheat-wheat-fallow rotation is followed. However, it is recommended that a rotation that will keep one-quarter to one-third of the crop land in grass should be adopted. Crested wheat grass is drought resistant and is the only grass suitable in most parts of the region. The trend toward larger farm units and good prices for live stock, are bringing about some change in this direction. The production of grasses as seed crops have been developed in the northern part of the zone.

The raising of cattle and sheep on the short-grass range lands which are unsuitable for cultivation has always been important. While the carrying capacity of these lands is relatively low —25 acres are required to graze one head of cattle six months each year,— the nutritive value of the grasses they produce is unexcelled.

Stacking Hay.

Cattle on the range (left) and on fallow land seeded to cover crop in early August (right).

THE DARK-BROWN SOILS: The dark-brown soils zone consists of nearly 16 million acres which were originally grassland dotted with small tree clumps. Approximately 9 million acres are classed as fair to good arable land, while another 1½ million acres are considered as poor to fair arable. There are approximately 14 million acres occupied and 7 million cultivated. About 2 million acres of fair to good arable land in this zone are not yet cultivated. The percentage of range and waste land is much smaller than in the brown soils zone and the arable land occurs in larger blocks.

Most of the dark-brown soils receive an average of 14 to 15 inches of precipitation annually. Except in local areas with light, sandy soils, this is sufficient to permit the introduction of permanent farming systems based on crop rotations, including grasses and legumes. The lighter soils are not suitable for cultivation.

Spraying range sheep.

Temperatures and the length of the growing season vary a great deal in this zone. At Lethbridge in the south, the average growing period is about 135 days and frost is not considered a limiting factor in general farming. Aided by irrigation a great variety of canning and specialty crops — corn, sugar beets and other vegetables — are grown. Proceeding northward, the growing season gradually shortens to about 120 days in the centre of the zone. In the northeastern portion, between Coronation and Vermilion, the period between 3 degrees of frost in spring and fall is reduced to an average of about 100 days. In this region the number of crops that can be grown are limited. The incidence of frost damage in the production of common cereals which are the main crop, is not uncommon.

The most extensive wheat growing regions in the Province are in the dark-brown soils zone. Three-quarters of the area seeded to cereals is devoted to wheat production, and the quality produced is good. The usual rotation is wheat-wheat-fallow but in the north, coarse grains are frequently substituted as the second or third crop after fallow.

There are a considerable number of range cattle and some range sheep raised in the southern part of the dark-brown soils zone. Mixed farming, with beef cattle as the main variation, is more prevalent in the north and on the

ALBERTA
SOIL ZONES
AS ESTABLISHED BY ALBERTA SOIL SURVEYS

★ Dominion Experimental Station

▲ Dominion Illustration Station

1806 Elevation in Feet above Sea Level

Brown Soils		Transition Soils	
Dark Brown and Shallow Black Soils		Grey Wooded Soils	
Black Soils		Areas unexplored (Believed to be largely non-agricultural)	

Registered Beef Shorthorns.

western boundaries. The tendency now is to extend the use of alfalfa-grass mixtures for hay as a basis for diversification where rainfall permits.

The amount of grass, particularly brome, produced for seed in the dark-brown soil zone has increased in recent years.

THE BLACK SOILS: The black soils are the most productive soils in Alberta. The region they occupy is generally referred to as the "parkland" country. It contains about 10 million acres of which 7.5 million are fair to good arable land. About 9.5 million acres are occupied, and 5.5 million are under cultivation. Most, if not all, of the arable land in this zone is occupied.

Annual precipitation on the black soils varies from 15 to 20 inches, but most of the area lies in the 17 to 18-inch precipitation zone. This is the highest for the Province. Nevertheless, while serious drought rarely occurs, moisture is not infrequently a limiting factor in crop production.

The length of the growing period varies from 120 days southeast of Edmonton to as low as 100 days in the extreme north and east of the zone.

A diversified system of agriculture is most highly developed on the black soils. Coarse grains, grasses and legumes all do well and form the basis of an expanding livestock industry. Most of the bacon exported from Alberta originates in this soils zone, and returns from dairying are estimated to approximate returns from beef cattle. There is a tendency on the part of farmers to substitute longer rotations, which include grass and legume crops, in place of the grain-fallow rotation practised formerly.

Fairly good quality wheat is grown on the black soils adjacent to the dark-brown soils. The quality is somewhat low in other parts, however, and the production of wheat should not be emphasized. There has been a definite shift to coarse grains in recent years. Most of the malting barley produced in Alberta is grown on the black soils.

THE GREY-WOODED SOILS: The grey-wooded soils zone contains most of the undeveloped agricultural lands in the Province. Including the Peace River transition soils the zone comprises about 110 million acres. However, the area may remain relatively undeveloped for many years

owing to inaccessibility, heavy tree cover and low-fertility soils. The total area occupied or available for settlement is estimated at 25 million acres, of which 15 million might be arable. Only 10 million acres are occupied at present with 3 million acres under cultivation. There is known to be some arable land in the area presently withheld from settlement.

Precipitation in the central portion of the grey-wooded soils zone averages from 17 to 19 inches. The amount received decreases to the north, the average at Fort Vermilion being about 13 inches. Owing to a relatively low rate of evaporation, a high proportion of the moisture received is available for crop production.

The shortness of the growing season definitely limits the types of agriculture that can be successfully practised on the wooded soils. In small areas the average period between 29 degrees Fahrenheit in the spring and fall is 110 days, but a major portion of the zone averages 100 days or less with some parts under 75 days. The growing season becomes rapidly shorter toward the mountains and slowly shorter toward the north.

Wooded soils vary widely in quality but are generally lower in fertility than soils in the other zones. They require the application of mineral fertilizers.

Good type ram lambs.

With minerals added, legumes do exceptionally well and will provide the nitrogen necessary to make these soils productive. Except in "islands" of above-average soils types, they produce wheat of poor quality for bread-making but are well adapted for the production of feed grains. The quality of malting barley raised in this zone is unexcelled.

Since it is already apparent to farmers in the area that the wooded soils will not stand to be cropped with grain continuously, a trend toward mixed farming including the production and utilization of forage crops is steadily developing in the area. The production of feed grains and forage for feeding to livestock — dairy and beef cattle and hogs — is increasing.

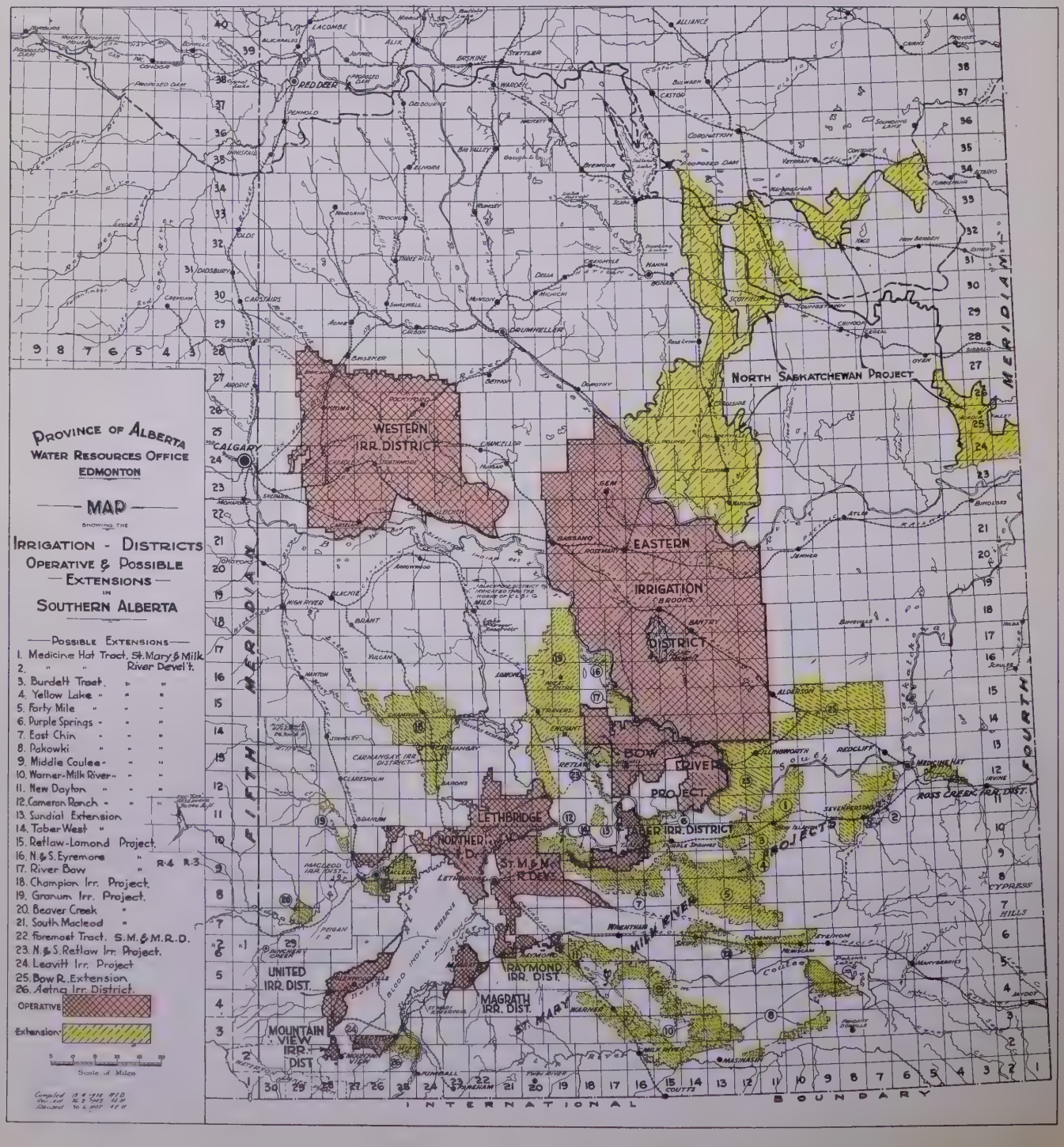
Cereal and grass seeds of high quality have been produced in the Peace River district since the area was first

A foothills view.

settled. During the Second World War, the production of legume seed was developed in all parts of the grey wooded soils zone. This crop proved to be remarkably well adapted to the area and prospects are that the acreage devoted to alfalfa, alsike clover, red clover and sweet clover will be limited in future only by the demand for their seeds.

IRRIGATION: Alberta is advantageously situated with respect to a supply of water for irrigation. The semi-arid part of the Province is traversed by the six largest tributaries of the South Saskatchewan River; and the topography of the region makes possible the construction of storage reservoirs at relatively low cost. Moreover, the streams are fed by mountain glaciers that provide water in quantity during the summer months when irrigation is in progress.

Surface waters are vested in the Crown and are administered under the Water Resources Act. The Irrigation Districts Act provides for the formation of irrigation districts and authorizes the raising of loans under by-laws adopted by voters of the district.



Irrigation dam on the Bow River near Bassano.

Stockpiling sugar beets for shipment.

There are now fifteen major irrigation projects in operation containing a total irrigable area of 724,000 acres. Completed surveys have shown this area may be more than doubled. The St. Mary and Milk River projects now in course of construction will add 345,000 acres.

The average size of an irrigated farm in Alberta is 230 acres but only 120 acres of crop land per farm are irrigated. In 1948, 400,000 acres on approximately 3,300 farms received water. It follows that when our total irrigation resources are fully developed, some 10,000 additional farms will be made available for settlement.

In the irrigated areas there are four main types of farms. These are grain, livestock, specialty crops and mixed farming types. From 45 to 55 per cent of the crop land is seeded to wheat. Wheat acreage is highest in districts with no facilities for handling specialty crops. For that reason, sugar beet production is centred at Raymond, Picture Butte and Taber, and canning crops are grown at Taber and Lethbridge. Alfalfa seed production is a specialty at Brooks. Mixed farming is most generally followed on the larger farms.

The raising of livestock is well distributed throughout the irrigated districts, and large numbers of cattle and sheep are brought in from adjoining range lands for finishing. Feed supplies are assured and the by-products of the beet and canning industries are utilized.

The development of markets will determine the future course of farming in irrigated districts. It seems probable that the acreage devoted to specialty crops will increase and that livestock feeding operations will expand. For many years yet, however, a high proportion of the farm income may be expected to come from the sale of wheat and the products of mixed farms.

New home in an irrigated district.

Well landscaped farm home.

Holsteins are a popular Dairy breed.

LAND TENURE

IN 1951 there were 84,315 farms in Alberta. They were distributed by size groups as follows:

Under 3 acres	195
3 to 9 "	1,203
10 to 69 "	2,039
70 to 239 "	23,712
240 to 399 "	24,562
400 to 559 "	12,071
560 to 759 "	7,664
760 to 1119 "	6,369
1120 to 1599 "	3,309
1600 to 2239 "	1,536
2240 to 2879 "	582
2880 and over	1,073

The size of the individual farm is determined to a large extent by the capacity of the land to produce and its adaptation for the use of large-scale machinery. Except where irrigation has been introduced, southern Alberta divides naturally into areas suitable for ranching and wheat growing respectively on a large scale. In central and northern districts where higher rainfall and rolling topography has resulted in considerable diversification, the average size of farm is smaller than in the south.

A high proportion of farmers in Alberta own their own farms. The census figures for 1951 show that 63 per cent of all farms are fully owned while 25 per cent are partly owned. Only 12 per cent of the total are wholly rented. On an acreage basis, 29,301,589 acres (66 per cent) are owned and 15,158,043 acres, including lands held on long-time Crown leases for ranching purposes, are rented.

World's Record Milk Producer, Two Consecutive Lactations, Twice Daily Milking.

HOW A FARM MAY BE ACQUIRED

THERE are several ways of getting a start on a farm in Alberta. You may purchase or lease an established farm, or you may secure a homestead lease on undeveloped Crown land. Whichever method is decided upon, care should be taken to settle in a district and on land which is adapted to the kind of farming you want to undertake. The suitability of the farm you acquire will in large measure determine your success.

A herd of good Ayrshires.

If you possess the necessary funds you may purchase a farm in any part of the Province. Present and suggested long-time land values are discussed below. The terms of sale vary, but at least one-third, preferably two-thirds, of the purchase price is usually required to be paid at the time of purchase. Frequently, the balance owing with interest is made payable on a crop share basis. This share is generally one-third of the grain produced delivered at the local market. Such an arrangement provides protection in the case of poor crops or low prices. When a mortgage is given to secure money for purchase, repayment is required in fixed annual amounts. By either method of financing five per cent. is the usual rate of interest charged.

Jersey cattle on pasture.

A relatively small number of Alberta farmers rent all the land they occupy. However, this form of tenure will continue to be used as a means of getting started in farming. On grain farms the crop-share agreement is general. Usually the landlord maintains his real estate by paying for building and fencing repairs, fire insurance and taxes, and receives one-quarter to one-third of the crop delivered at the market depending on the grade of land. Should he provide part of the equipment, feed, seed, etc., the landlord's share is proportionately greater. In mixed farming areas, there is a tendency to enter into agreements that divide returns from livestock enterprises as well as grain growing. To be successful each party to a livestock share-rental agreement must be well acquainted with and have the confidence of the other party.

Heavy clearing.

Early settlers used an axe.

Clearing with modern equipment.

New breaking.

Lastly, a British subject or Canadian citizen or one who declares his intention to become naturalized and (unless a veteran under the Veteran's Land Act, 1942) who has resided in Alberta for at least two years immediately prior to the date of making application, may apply for a homestead lease on 160 or 320 acres of Crown land. Certain minimum requirements regarding tenure and improvements must be met. No rent is charged during the first three years. After the third year until the land becomes the property of the lessee as provided, one-eighth of the crop is paid as rental. After five years occupation, the land may be purchased at the rate of $100 for the first quarter-section (160 acres) and $1.25 for each additional acre. However, the price is reduced by 20 per cent each year purchase is delayed, so that at the end of ten years it is given free provided the terms of occupation and improvement have been fulfilled.

Most of the land remaining for homestead is situated in the grey-wooded soils zone. It is estimated that probably 20 million acres, half of which is suitable for cultivation, might ultimately become available for settlement. The progress of new settlement, however, will depend on a number of factors. Transportation facilities must be developed in some areas. Other considerations are the cost of clearing and development, and the future demand and price of agricultural products. New settlement is restricted to areas that will adequately support community life.

Complete information regarding homestead leases may be obtained by writing to the Director of Lands, Department of Lands and Forests, Edmonton, Alberta, Canada.

A well-developed homestead.

Cattle contribute toward success.

INVESTMENT IN FARMS

AT the present time the selling price of land would seem to be above its long-time normal value. In 1950, the average value of occupied farm land including buildings, was estimated to be $37 per acre. In 1941, the estimated value was $16 per acre.

The relative selling prices of land by soil types is indicated in a study of actual land sales taking place in 1949. The prices reported were: brown soils, $14; dark brown soils, $32; black soils, $37; transition soils (black-grey), $24; and grey-wooded soils, $14 an acre. However, the range of prices paid in all zones was wide, varying from a low of $4 in the brown soils zone to a high of $70 in both the dark-brown and black soils zones.

In the same year, the selling price of irrigated land, with improvements, ranged from an average of $50 an acre where general mixed farming is carried on, to $150 an acre for land devoted to the production of canning crops, corn, peas, sugar beets, etc.

Farm investments in buildings, machinery and live stock vary between areas and individual farmers. The amount of capital considered necessary for farming is increasing, but many farmers operate efficiently with relatively moderate outlay. The management factor is very important in this respect.

The size of farms and the acreage cultivated by census divisions are shown in the table following. A map showing location of census divisions will be found on the next page.

Census Division	Number of farms	Acres per Farm	
		Total	Cultivated
1	2,913	1,452	574
2	3,884	699	320
3	2,441	1,196	295
4	3,547	786	483
5	2,895	1,459	441
6	6,935	603	359
7	5,055	752	346
8	9,269	414	221
9	4,845	315	140
10	8,845	408	225
11	8,661	268	141
12	2,175	316	93
13	4,727	320	127
14	8,601	300	145
15	2,965	322	138
16	6,074	393	203
17	453	346	196
Province	84,315	527	244

New fences change old trails.

A newly-settled area.

FARM CREDIT FACILITIES

IN Canada the Provinces have jurisdiction over property and civil rights. In keeping with its responsibility in this connection, the Alberta Government has made provision by legislation for the registration of securities, the rights of creditors and borrowers and the procedure to be followed in the repayment of debts.

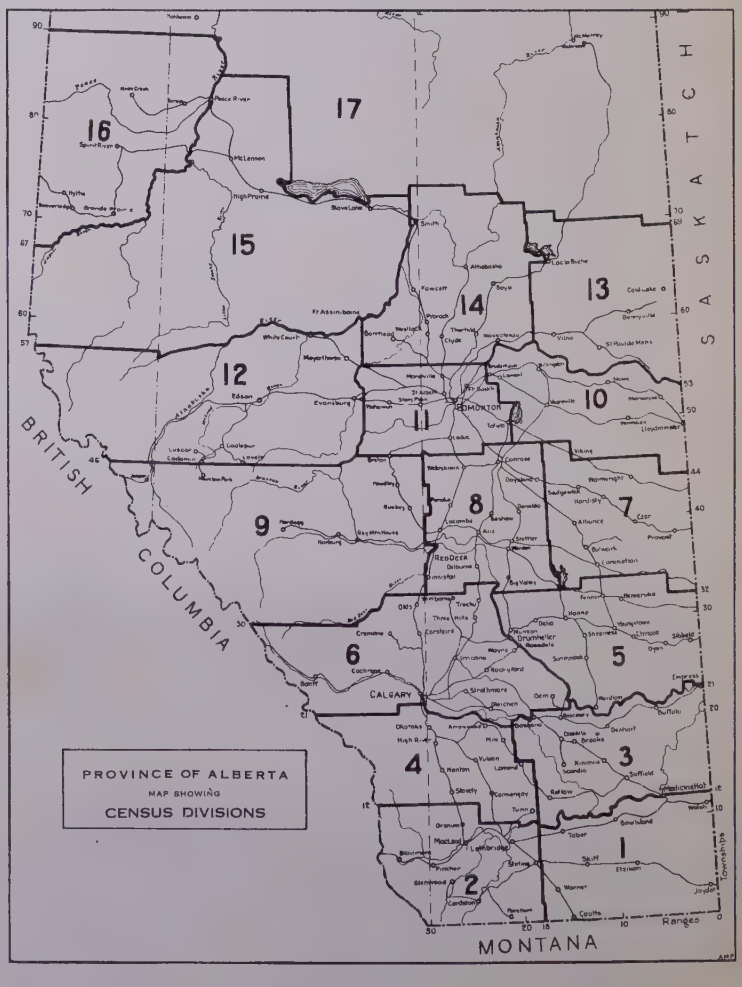
Short-Term Credit: Many Alberta farmers are engaged extensively in grain growing, livestock feeding operations, and so forth. To carry on their operations successfully, they occasionally require short term or seasonal credit. The Provincial treasury branches and the chartered banks provide most of this type of credit. Security is taken on livestock, threshed grain, grain storage tickets, or other highly liquid collateral. Money advanced for the purchase of seed, binder twine and the cost of threshing becomes a first charge upon the crop grown or harvested therewith. Financial assistance is made available through the Alberta Feeder Associations' Guarantee Act, to help feeders finance the purchase of cattle and lambs for finishing.

Intermediate Term Credit: The sale of farm machinery, equipment, lumber and livestock on terms has in effect, provided farmers with considerable intermediate term credit. Usually a cash payment is made at the time of purchase with the balance secured by lien agreement. Chattel mortgages are extensively used when additional security is required.

The Farm Improvement Loans Act proclaimed by the Government of Canada on March 1, 1945, provides for intermediate credit to farmers for the improvement and development of farms and for the improvement of living conditions thereon. Farm improvement loans are made by chartered banks which are guaranteed against loss by the Government up to ten per cent of the aggregate principal amount. Repayments are arranged on the installment plan.

Money may be secured under the Act for (1) the purchase of farm implements, machinery and trucks; (2) farm home building, repair, improvement and alteration; (3) for the purchase of livestock; and (4) for the clearing and breaking of land.

The progress which is being made in the development of agriculture in Alberta is indicated by the fact that up to December 31, 1950, 57,153 loans totalling $54,979,018, one-third of the total for Canada, have been made for farm improvement in this Province.



Long-Term Mortgage Credit: Loan, trust and insurance companies have been large lenders on farm mortgage security. However, much of this business is now handled by the Canadian Farm Loan Board, an agency of the federal government constituted as a public corporation. A branch office is established at Edmonton, Alberta.

The Farm Loan Board may approve loans to any qualified farmer who owns or intends to purchase land. Loans may be used to pay debts, to purchase livestock and farm implements, to make farm improvements, to erect new buildings, to provide expenses of farm operation, to assist in the purchase of additional farm land, etc.

The amount of a first mortgage loan may not exceed one-half the appraised value of the farm (land and buildings) or a total of $5,000. Any person requiring additional funds may apply for a second mortgage. However, the first and second mortgages together must not exceed two-thirds the appraised value of the farm or be more than $6,000.

First mortgage loans may be repaid in equal annual or semi-annual installments over a period varying from five to twenty-five years. Second mortgages may be made for terms not in excess of six years. The rate of interest is 4½ and 5 per cent on first and second mortgage loans respectively.

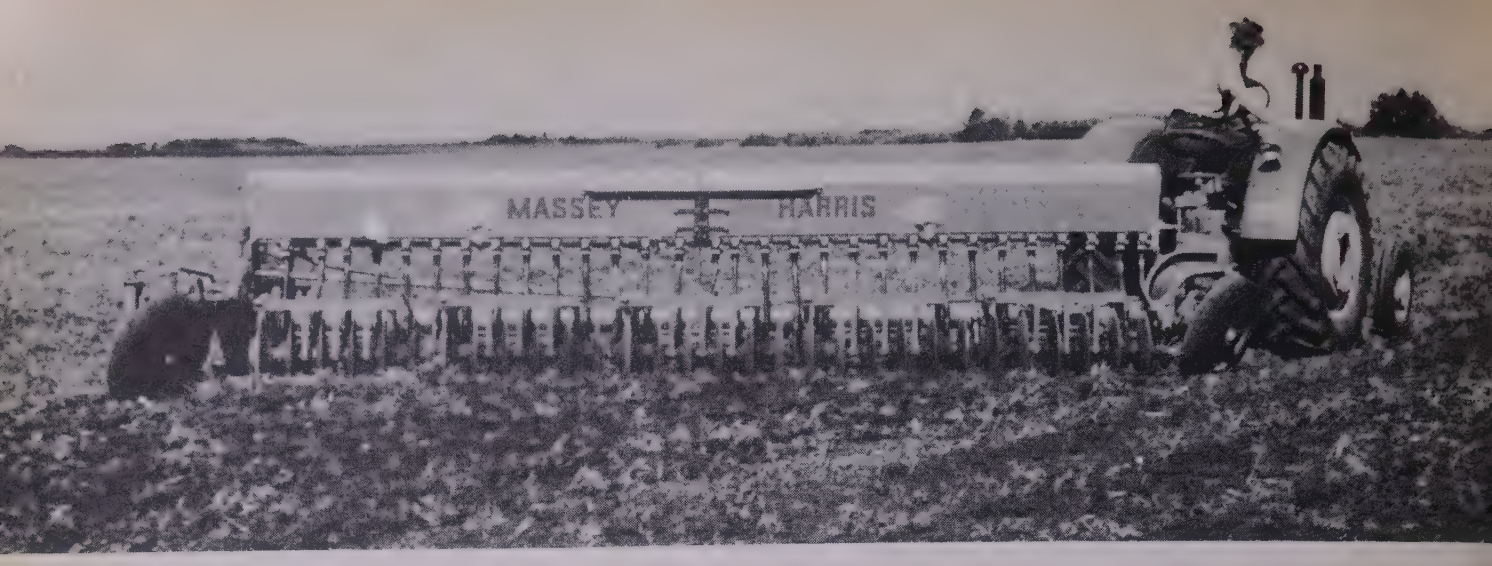
Turkeys on range.

FARM MECHANIZATION

THE application of engineering science to farming has played an important part in the agricultural development of Alberta. A wealth of undeveloped agricultural resources in relation to the man-power available has tended, since the early days of settlement, to direct the attention of farmers toward labor-saving machinery and techniques in production. In recent years the trend toward mechanization has increased, current purchases of farm machinery being more than double those of pre-war.

The increase of machinery on farms by five-year intervals (census years) from 1936 to 1951 is shown in the following table:

Item	1936	1941	1946	1951
Grain Combines	2,909	5,165	10,648	20,852
Tractors	24,922	36,445	48,763	79,282
Motor Trucks	7,656	14,512	18,451	39,723
Automobiles	39,224	44,090	41,541	46,314
Gasoline Engines	30,043	31,091	36,828	46,002
Electric Motors	1,866	2,150	7,980	20,925
Threshing Machines	12,539	12,753	12,921	14,768
Binders	74,590	------	65,876	57,930



The one-way disc harrow and seeder is a relatively new implement. Though trash cover is light on this field the "discer" is adapted for conserving cover.

The introduction of farm tractors with a corresponding reduction in dependence on horse-power has served, up to now, as a measure of farm mechanization. While the number of horses on Alberta farms were reduced from 916,510 head in 1921 to 287,200 in 1951, tractors increased from a negligible number to achieve a dominant position as a source of motive power on all types of farms in the Province. In the same period, moreover, the total acreage under crops has more than doubled and the state of husbandry in which our farms are kept is much improved.

The change to tractor power and associated modern machinery has revolutionized grain production practices. Every part of the process has been effected. Land clearing and improvement; weeds, pests and soil erosion control; the maintenance of soil fertility; the seeding, harvesting and handling of the various kinds of crops, are all performed more speedily and efficiently with mechanical power.

Improved equipment and cultural techniques have increased the effectiveness of the power used. The tillage implement most widely used is the one-way disc. The one-way is designed to operate at relatively shallow depths — 2 to 4 inches — and does the work of either the plow or a surface cultivator. This is satisfactory since deep cultivation is not generally recommended any longer in Western Canada. The draught of the one-way is about one-half the draught required to plow. Moreover, the one-way can be set to operate so as to leave stubble "anchored" on the surface of the soil, which is a decided advantage where

New-type drill designed and built by an ingenious farmer for the purpose of placing seed in the ground beneath heavy trash cover. This machine is still in experimental stage. At right, bar of drill is bared to show how it operates.

Noble blade weeders. Note maintenance of protective cover.

control against wind or water erosion is required. With seeding attachments provided, one-way discs are used as tillage-seeder combines at planting time.

However, widely used as the one-way disc is now, its position is being challenged by the one-way disc harrow or discer. The discer is excellent in retaining trash cover and further reduces power requirements.

The improvement in general farming and livestock production through the introduction of mechanical power and the adaptation of machinery, is less spectacular but just as important. Sweep rakes, the hay loader, the stacker, the field forage harvester, and the automatic baler have taken the "heave" out of hay-making. The production of sugar beets, potatoes and canning vegetables are facilitated by a wide range of specialized planting, cultivating and harvesting machinery.

The use of electrical power on farms in Alberta is increasing rapidly. In 1941 about 500 farms received central station power while on 5,000 farms individual generating units had been installed. At December 31, 1951, 13,479 farms were wired to central power and plans are to electrify another 4,000 in 1952. Between 1941 and 1951 the number of electrical motors on farms increased from 2,150 to 20,925.

The Government of Alberta recognizes the need for further development in rural electrification and, to meet the situation, a comprehensive policy on rural electrification has been adopted. This policy is based on giving assistance, including loan guarantees, to farm electrical co-operative associations organized to distribute electricity in rural communities. Already 209 associations have been formed and 150 are receiving electricity. The total estimated cost of the local distributing systems in use is $8,356,322 of which

One-way disc in operation.

Farm and home electrified.

$3,224,419 is covered by Provincial loan guarantee.

As electrical services to rural communities are developed, milking machines, milk coolers, feed grinders and mixers, barn cleaners, pressure water systems, and many conveniences in the home will be more generally adopted on Alberta farms. Electrical power will reduce labor requirements and increase net farm incomes.

GOVERNMENT SERVICES TO AGRICULTURE

UNDER the British North America Act, the federal and provincial governments in Canada have definite responsibilities with regard to the development of agriculture. With respect to some features of the work either government may take action. In practice, services to agriculture have been developed between the two governments on a complimentary basis.

In general, the Dominion government is regarded as the senior partner in the field of marketing and agricultural research. The Provinces are responsible for agricultural education, extension, production and the organization of farmers' activities, including co-operation.

Canada Department of Agriculture:

Experimental farms, science, production and marketing services, are maintained by the Canada Department of Agriculture. Branch offices associated with each service are established in Alberta. While these branches are units of a country-wide system, the primary purpose of each is to contribute toward the solution of farm problems, or to administer agricultural matters under federal jurisdiction, within the region in which it is situated. Full co-operation is maintained with all

Milking.

other agencies engaged in the agricultural field.

The Dominion experimental farms service carries on experimental work in the major branches of practical agriculture. While supervised and co-ordinated from the "Central Farm" at Ottawa, the experimental work is largely done at stations situated throughout the agricultural areas of the country. Each station is equipped to serve the experimental needs of agriculture in the region in which it is located. Problems of local significance are dealt with through a system of illustration stations and substations.

In Alberta, experimental stations are situated at Lethbridge, Lacombe and Beaverlodge; a substation is maintained at Fort Vermilion and a range experiment station at Manyberries. Thirty district substations and illustration stations are operated on privately-owned farms by co-operative agreement with the owners. These local stations serve an important purpose. They test new crops and varieties and farming practices under local conditions and demonstrate the operation of a well-balanced farm unit suitable to local soil types and climate. The work on sub-stations has developed to include experiments of a fact-finding nature on specific problems and to serve as sources of good seed, horti-

Alberta bred and owned.

cultural material and livestock for breeding.

The science service deals with the discovery and control of insect pests and plant diseases. The service operates generally through and with corresponding scientific provincial agencies located at the universities, animal health institutions and the experimental farms service.

The main function of the production service is the co-ordination of federal and provincial activities in promoting the production of quality agricultural products. It administers Canada-wide legislation respecting health and purity in products. Two of the better known administrative duties deal with livestock pedigrees, and seed registration.

The marketing service of the Canada Department of Agriculture is responsible for the administration of legisla-

Alberta-bred bulls made available under Provincial cattle improvement policy.

Dormitory, School of Agriculture and Home Economics.

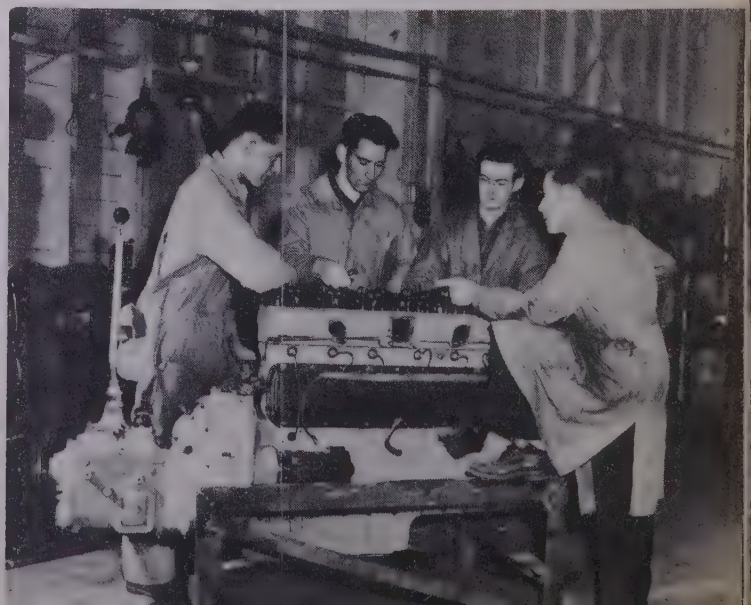
tion on grading and renders other services related to the efficient marketing of farm products. Offices are maintained in all principal centres from where (1) the work of inspection and grading is directed and (2) the trade and general public are kept informed through reports on sales and prices paid. The agricultural economics division serves principally as a fact-finding body in connection with the economics of farm production and marketing.

Two other units of the Department might be mentioned. Land utilization and water conservation problems are given special attention under authority of the Prairie Farm Rehabilitation Act, 1935. A continuing programme of investigation is carried on under the Act with the purpose of promoting efficient land use in marginal areas, and the conservation and full use of available water resources. Financial assistance is given to farmers who build dams or reservoirs for watering stock. Alberta is the principal recipient of financial and technical aid provided under the Act to develop irrigation facilities.

Secondly, the Prairie Farms Assistance Act, 1939, provides for payments to farmers in years that crop failure is

Instruction in cooking.

Class in farm mechanics.



general in Western Canada. When the yield of wheat is between four and eight bushels in respect to a sizable area, the farmer receives $1.50 an acre on half his cultivated acreage with a maximum of $300. Should the yield be below four bushels, payments are at the rate of $2.50 an acre with $500 maximum per farm.

Three federal institutions dealing with matters directly affecting Alberta farmers are within the jurisdiction of the Department of Trade and Commerce. The Board of Grain Commissioners deal with all matters respecting the grading and movement of grain to markets, while the Canadian Wheat Board is responsible for selling the wheat, oats and barley marketed in Western Canada and arranging annual "pools" for the distribution of the proceeds among producers. The Dominion Bureau of Statistics, in co-operation with the provinces, assembles and publishes official agricultural statistics.

Junior club barley seed plot. Grain storage elevators in background.

The Alberta Department of Agriculture:

THE Alberta Department of Agriculture serves the rural people through a number of branches, each concerned with a particular phase of the industry. The principal branches deal with field crops, livestock, dairying, veterinary, extension, agricultural schools, poultry, apiculture and fur farming.

Junior Calf Club Show.

Farmers attend demonstration on stacking hay.

Farmers discuss soils and fertilizers on Illustration Station.

Each branch is organized on an enterprise basis. The field crops branch, for example, includes the following divisions: crop improvement; soil conservation and weed control; pest control; horticulture; and a farmstead planning service.

Under the agricultural extension service, forty district agriculturists work among the rural people, assisting them with their problems and carrying to them the many government policies designed to improve the general standard of farming in the Province. Under the dominion-provincial farm labour agreement, district agriculturists assist in the placement and supervision of farm labour, with particular attention given to harvest labour requirements.

The Agricultural Service Board Act provides for the setting up of agricultural service boards on weed control, soil erosion and other problems. The boards consist of two members of the municipal council, two ratepayers and the local district agriculturist who acts in an advisory capacity. The service boards have the authority to assume control over farm lands which through neglect or inefficiency have become weed-infested and wasted. However, the interest of the owner in the land is carefully protected under the Act, which provides that the farm must be returned to him upon rehabilitation of the land.

The women's division of the extension service branch provides a comprehensive service in home economy designed particularly to meet the needs of homemakers in rural areas. The division is staffed by a group of specialists including fourteen district home economists through whose offices direct

Crested wheat grass seed crop.

Alsike Clover seed crop.

Range cattle are "worked" — branded, dehorned, etc. — in enclosures known as corrals.

contact with the people using the service is maintained. The services offered through this division are much appreciated, and will be extended as the supply of trained staff permits.

Seasonal short courses in agriculture and home arts are provided at country points convenient to all who wish to attend. Bulletins and other publications prepared by members of the Department are provided free upon request.

Alberta junior farm and home clubs (now referred to as 4-H clubs) provide programs of activities designed to arouse in rural young people an appreciation of the farm and farm life and to train them in the essentials of good citizenship, farming and homemaking. Farm club projects include beef cattle breeding and raising dairy calves, swine, poultry, grains, forage crops and potatoes. Home clubs engage in food, clothing, gardening and home decorating projects. In 1951, there were 426 junior clubs in operation in the Province with a total membership of 6,575 boys and girls.

In addition to attendance at regular club meetings and participation in project work, junior club members hold achievement days, attend rallies and camps, and take part in various community activities. Outstanding work is recognized by awarding scholarships with the opportunity to attend short courses arranged at the schools of agriculture and to participate in provincial judging competitions. Provincial project winners may attend national club week which is held in connection with the Royal Agricultural Winter Fair at Toronto.

The junior club program has stimulated an interest in exhibiting at major as well as local competitions. Alberta grain exhibits entered in junior classes at the "Royal" in Toronto not infrequently capture grand championship

Red Clover seed crop. Cage is to determine value of honeybees in production.

Legume seed and honey production are complementary.

honours, and repeat at the Chicago International a week later. A junior club member won the world championship in wheat at the "Royal" in 1950. In 1951, another junior won the same award, while still another won the grand championship in barley at Chicago. Many Alberta winners in senior classes come from the ranks of junior club members.

Free courses are offered at Alberta Schools of Agriculture and Home Economics located at Olds, Vermilion and Fairview. The instruction given at the schools is of a practical nature. The laboratories and work shops are up-to-date and well equipped. Material for judging and demonstration purposes come from the farms that are operated in conjunction with each school. The regular course covers a period of two terms, each term extending from October to early April.

In the summer, short courses are offered at the schools of agriculture for the benefit of junior club members, and for groups of farm men and women interested in special farm or home problems, or in rural community organization.

Water conservation under P.F.R.A.

University Faculty of Agriculture: The University of Alberta serves the rural interests of the Province through a Faculty of Agriculture. The Faculty consists of six departments, namely, animal science, plant science, soils, agricultural engineering, dairying and entomology. A four-year course leading to the degree of B.Sc. in agriculture is offered and opportunity for post-graduate study is provided in most of the departments of the Faculty.

The training of students is looked upon as the first duty of the staff. However, considerable time is devoted to research work and extension activities. Close contact with farm

Sows on pasture at University Farm.

A Holstein class at an Alberta Fair.

people is maintained through radio, the press and the publication of bulletins. Staff members address gatherings at meetings and field days throughout the Province, and the public are invited to attend "special" days at the University when the results of experimental projects are discussed. To mention only one example "Feeders' Day", arranged by the department of animal science, is attended annually by more than 600 people from all parts of Alberta.

The departments of animal science, plant science, and soils operate farms as part of the experimental and research programs carried out. Thus a useful contact is established between laboratory research, experiments conducted in the field and the practice of farming. In addition, co-operative work is carried on with farmers and various organizations in many parts of the Province. Close co-operation is maintained with the National Research Council of Canada, Federal and Provincial Departments of Agriculture, and with a number of commercial and industrial organizations.

Lambs on feed.

A farm flock of layers.

Municipal road-grading machinery in operation.

LOCAL GOVERNMENT

Municipal Administration: Farm communities in Alberta enjoy self-government in all matters of local interest. The only exception is in outlying districts which are not sufficiently advanced to support self government, and where local affairs are administered by officers of the Department of Municipal Affairs.

Rural municipal districts are the principal units of local self-government. There are fifty-seven districts now organized in the Province, including two "counties" which are set up on a trial basis. Municipal councils are made up of from five to seven — usually six — councillors. Each councillor represents a division and is elected for a term of three years. Continuity on council is provided through the practice of electing one-third of its members each year.

The main functions of municipal government are to levy and collect taxes, and to supervise the expenditures of municipal funds in providing essential community services. These include the construction and maintenance of roads, bridges, etc.; the protection of persons and property; the conservation of health; public welfare; and other services of a purely local nature.

The municipality is also required to levy and collect taxes as requisitioned for by school divisions, municipal hospital boards and rural health units.

Local authority to levy taxes is pretty well restricted to a direct tax on land. More than 90 per cent of revenues collected by rural municipalities come from this source. However, benefits from other sources of revenue are extended to municipal districts through a generous policy on the part of the Provincial Government in providing grants both for specific purposes and without condition. Thus assistance is given for the construction and maintenance of market roads, the operation of agricultural service boards, education, and to provide health and hospital facilities. Unconditional grants are made for the purpose of reducing the municipal mill rate. Old age pensions, mothers' allowances, and unemployment and agricultural relief, are the subject of agreement between local and the senior governments, Provincial and Dominion.

Rural Public Schools: The operation of public schools is an important function of local self-government. For the purpose of administration there are fifty-eight school divisions in the Prov-

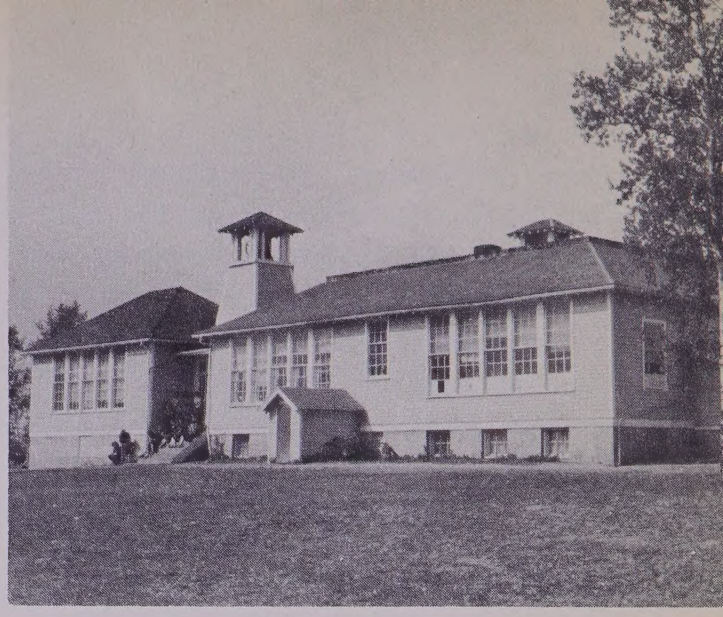
Divisional School Board in session.

Children commute in buses to and from centralized rural school.

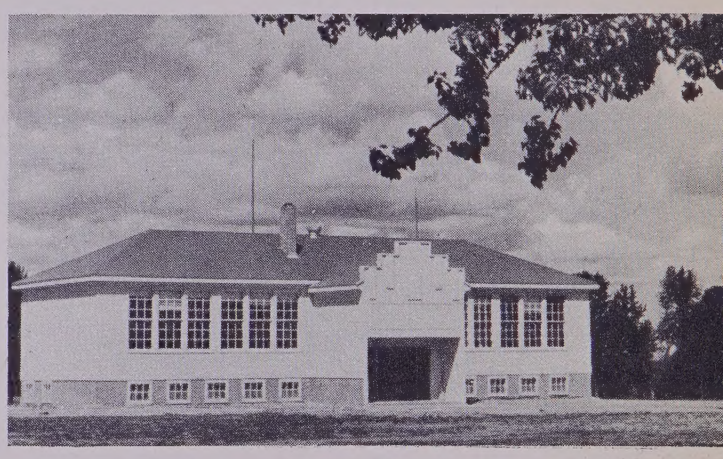
ince. Each contains from sixty to eighty rural schools and the movement toward the inclusion of town schools in the larger administrative units is growing. The number of one-room rural schools is decreasing steadily as service is centralized at rural points or in near-by urban centres.

The affairs of a school division are administered by a board of trustees, three or five in number, each representing a sub-division and elected for a period of three years. The superintendent of schools for the division represents the Alberta Department of Education and serves the board in a consultative capacity. An office with a full-time secretary-treasurer in charge is maintained by each division. In the two counties that have been organized, an educational committee of council takes the place of the board of trustees in the administration of school matters. Also the secretary of the county council is responsible for directing the details of school operation.

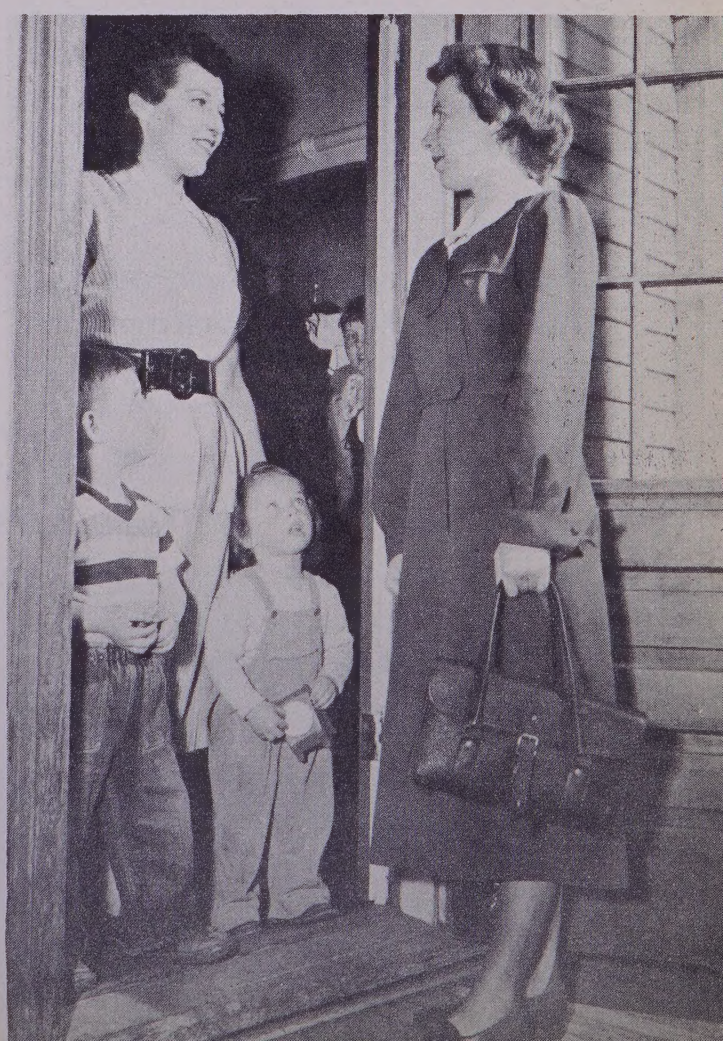
The board has full control over the construction and maintenance of schools, teachers' residences, dormitories and other buildings, the employment of teachers, salaries, supplies, library services and determining the amount of money to be requisitioned for financing. The educational committees in the counties perform similar duties and have the same responsibility for preparing the budget for



A rural high school.



A well-appointed rural school.



Public health nurse visits a family.

school operation. The elected members, being councillors, sit on the council when the budget comes up for consideration.

The school board may also arrange for such medical, nursing, and dental services as are considered necessary to safeguard the health of the children. Provision is also made for the health department to establish complete health units on a municipal basis. Such units are now replacing those that were formerly set up through the co-operation of divisional boards and the Alberta Department of Health.

Rural Health : In Alberta one or more municipalities may organize a health unit. One-half the cost involved is borne by the municipalities within the health district, the other half by the Provincial Government A full-time staff consisting of a medical officer of health a public health nurse, a sanitary inspector and a secretary-technician is provided. The major responsibilities of the unit is health education and the control of communicable disease through inoculations, quarantine, etc. A school health service is provided. Sixteen rural health units, serving some 250,000 people are in operation.

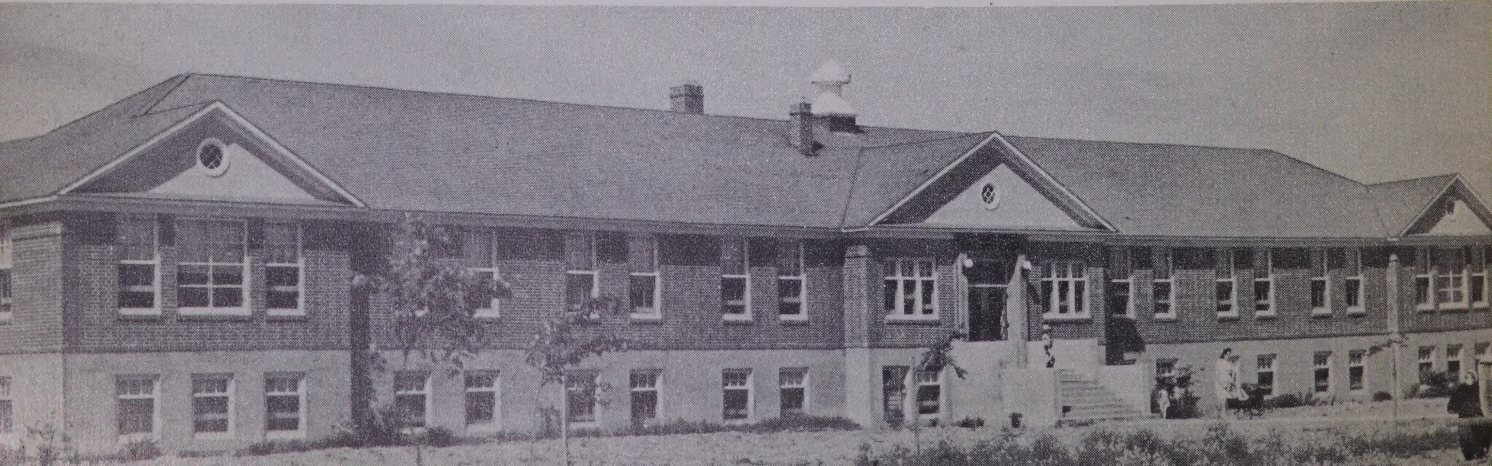
Upon vote of the taxpayers hospitalization may be undertaken on a municipal basis. At present there are sixty-three municipal hospital districts, serving 340,000 persons, in operation. The average rate levied to support the hospitals in 1951 was 6.2 mills. District programmes vary but in most municipalities public ward care is provided for $1.00 a day with extras at reduced rates.

With the aid of a hospital construction grant of $2,000 for each new bed, half from the Dominion and half from the Province, new hospitals and hospital additions are being provided. While Alberta now has more hospital beds in proportion to population than any other province in Canada, it is planned to further improve the accommodation provided.

The Alberta Department of Health provides municipal nursing services to communities which are a considerable distance from established hospitals and medical services. The nurses offer a public health service, including inoculations, school examinations, baby clinics, etc., and emergency treatment for the sick. Thirty-five full-time nurses are employed.

In addition to the rural health services outlined above, other general Provincial public health policies are available to farming as well as urban communities. Sanitorium treatment for tuberculosis, cancer care (including diagnosis, surgery, radium and X-ray treatments) and hospitalization for maternity cases are free. Venereal diseases clinics also are free. Mental hospital care is provided at $1.00 a day.

Rural municipal hospital.



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The photographs and illustrations used were obtained from a number of sources. The Alberta Department of Economic Affairs; the National Film Board; the Experimental Farms Service and the Economics Division of the Canada Department of Agriculture; the Faculty of Agriculture of the University of Alberta; and members of the Alberta Department of Agriculture, generously opened their photographic files. Livestock breeders made available a number of illustrations required. Airview Photos supplied the pictures on pages three and seven, and W. C. McCalla took the photograph entitled "Wheat in Parkland Area", on page fourteen.

The map on types of farming areas (page thirteen) was adapted from a map published by the Canada Department of Agriculture in co-operation with the Department of Trade and Commerce; the outline of Alberta soil zones (page seventeen) is based on a detailed soils map prepared by "Alberta Soil Surveys" and published by the Department of Extension, University of Alberta; and the map showing irrigated areas (page twenty) was provided by the Alberta Department of Water Resources.

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